

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
17 February 2005 (17.02.2005)

PCT

(10) International Publication Number  
**WO 2005/014815 A1**

(51) International Patent Classification<sup>7</sup>: C12N 15/11,  
A61K 31/713

(21) International Application Number:  
PCT/US2004/025633

(22) International Filing Date: 9 August 2004 (09.08.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/493,614 8 August 2003 (08.08.2003) US

(71) Applicants (for all designated States except US): **PRES-  
IDENT AND FELLOWS OF HARVARD COLLEGE**  
[US/US]; 17 Quincy Street, Cambridge, MA 02138 (US).  
**THE BRIGHAM AND WOMEN'S HOSPITAL, INC.**  
[US/US]; 75 Francis Street, Boston, MA 02115 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **TSAI, Li-Huei**  
[US/US]; 26 Fresh Pond Parkway, Cambridge, MA 02138  
(US). **KOSIK, Kenneth, S.** [US/US]; 88 Country Club  
Lane, Belmont, MA 02478 (US).

(74) Agents: **KNAPP, Lauren, T.** et al.; Patent Group, Foley  
Hoag, LLP, 155 Seaport Boulevard, Boston, MA 02210  
(US).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,  
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

**Published:**

- with international search report
- before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: siRNA BASED METHODS FOR TREATING ALZHEIMER'S DISEASE

(57) Abstract: The present invention relates to siRNA molecules derived from BACE1 and BACE2 genes. Accordingly, provided herein are siRNA molecules comprising a nucleotide sequence consisting essentially of a BACE1 or BACE2 gene. Also provided are methods for reducing the level of BACE1 protein in a cell. Further provided are methods for preparing a pharmaceutical composition comprising an siRNA with a pharmaceutically acceptable carrier.



**WO 2005/014815 A1**